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ABSTRACT

Focusing on the controversy over whether community colleges aid or hinder their students' socioeconomic attainment, this paper aims to definitively determine the effects of these institutions and to explore how they produce those effects. The first section critically synthesizes research comparing the community college and other postsecondary institutions with respect to their impact on educational attainment, economic success, and higher education access. It concludes that baccalaureate aspirants entering community colleges attain less, both educationally and economically, than do comparable four-year college entrants, but that college entrants seeking subbaccalaureate vocational training seem to attain more education if they enter a community college than a four-year college. The second section of the paper examines the process by which community college entrants attain less education than four-year college entrants, focusing on high attrition rates within community colleges, difficulties experienced by community college graduates in transferring to four-year colleges, and attrition after transfer. The paper concludes that even controlling for differences in students' pre-college characteristics, the community college is clearly less able than the four-year college to facilitate the educational and economic attainment of the baccalaureate-oriented student. (Author/RO)

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THE EFFECTS OF COMMUNITY COLLEGES:

AID OR HINDRANCE TO SOCIOECONOMIC ATTAINMENT?

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JC 860 316

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THE EFFECTS OF COMMUNITY COLLEGES

Abstract

The community college is both an important and controversial institution. It now enrolls 36% of all students in college. And it is embroiled in controversy over whether it aids or, instead, hinders its students' socioeconomic attainment. This paper aims to definitively determine the effects of the community college and to explore how the community college produces those effects. The first section critically synthesizes research comparing the community college and other postsecondary institutions in their impacts on educational attainment, economic success, and higher education access. It concludes that baccalaureate aspirants entering community colleges attain less educationally and economically than do comparable four-year-colleges entrants. But community-college entrants seeking only subbaccalaureate vocational training seem to get more education than if they had entered a four-year college. However, the research allows no conclusion on which type of institution best promotes the economic success of subbaccalaureate aspirants and facilitates access to higher education of students generally. The second section of the paper examines how community-college entrants' educational attainment is impeded by attrition within the community college, difficulty in transferring to four-year colleges, and attrition after transfer. In each case, specific factors are examined: for example, how community colleges' lack of dormitories contributes to attrition and their vocational emphasis leads to transfer difficulties.

THE EFFECTS OF COMMUNITY COLLEGES:
Aid or Hindrance to Socioeconomic Attainment?*

The community college has emerged during the course of this century as one of the central elements of the U.S. higher education system.[1] Totally absent until 1900, community colleges now number nearly a thousand and enroll 36 percent of all students in higher education (U.S. National Center on Educational Statistics, 1985: 14). Moreover, community colleges have become a central artery into higher education for working class and minority students. Public two-year college students are considerably more likely than four-year college students to be nonwhite and to have parents who hold working-class jobs, make less than the median family income, and have not gone to college. For example, 41.4% of public two-year-college students have family incomes of less than $20,000 and 20.8% are nonwhite. Meanwhile, the comparable percentages for all four-year-college students are 31.0% and 16.6%, respectively (U.S. Bureau of the Census, 1985: 58-59; and U.S. National Center for Education Statistics, 1984: 65).[2]

Community college supporters and activists have praised its attractiveness to working class and nonwhite students. Taking a functionalist perspective, they view the community college as serving society by providing social mobility as well as supplying the technical skills needed by a complex industrial economy (Cohen and Brawer, 1982: 1; Eells, 1931: 93; Medsker, 1960: 4; Monroe, 1972: 32-37). For Leland Medsker, one of the leading proponents of the functionalist view,

> ((The two-year college)) is perhaps the most effective democratizing agent in higher education. It decentralizes post-high school opportunities by placing them within reach of a large number of students. It makes higher education available at low cost to the student and at moderate cost to society.... Furthermore, the American technological economy requires many persons trained at an intermediate level -- not full-fledged engineers or scientists but high-level technicians or semiprofessionals. (Medsker, 1960: 4).

In the last fifteen years, however, the community college has come under intense criticism from a small group of scholars who see the community college's very success in attracting working class and minority students as a problem. These critics take a "class reproduction" view of the the community college's role. In their view, the community college's fundamental role is to reproduce the class structure of our capitalist society by insuring that children inherit their parents' social class positions and by producing graduates trained and socialized for work in capitalist enterprises (Bowles and Gintis, 1976: 208, 212; Karabel, 1972: 523-524; Nasaw, 1979: 235; Pincus, 1974: 18; and Zwerling, 1976: xix). As L. Steven Zwerling argues,

> Not only is maintaining the social hierarchy a primary function of the community college, but the community college is also remarkably effective at the job. It takes students whose parents are characterized primarily by low income and educational achievement and slots them into the lower ranks of the industrial and commercial hierarchy. The community college is in fact a social defense mechanism that resists changes in the social structure. (Zwerling, 1976: xix)

This clash of perspectives has produced a vigorous, if not vitriolic, debate (Cohen and Brawer, 1982: chap. 13; and Vaughan,

1980). But, despite its vigor, the debate has not yet been settled. There is still no agreement on on what effects community colleges have and very little discussion of how those effects are produced. One reason, as we will see below, is that the contending parties adhere to very different standards of how to measure the community college's degree of effectiveness. Moreover, most of the debaters have relied on weak, often anecdotal data to make their cases.

This paper will advance the debate over the effects of community colleges in two ways. First, it aims to settle the question of what are the effects of community colleges. The paper will weigh the evidence on the community college's impact on educational and economic attainment and access to higher education. Second, the paper will explore, although it cannot settle, the question of how the community college produces its effects. This paper concludes that, while the functionalist school does find some validation, the evidence lies more with the class-reproduction view. However, the purposes of the community college are not as claimed by the class reproduction school.[3]

STANDARDS FOR MEASURING COMMUNITY-COLLEGE EFFECTS

The functionalist and class reproduction positions differ considerably in the standards they use to judge how effective community colleges are. This difference is founded on opposing views of community-college students' desires.

The class reproduction school gauges the success of the community college primarily by comparing the proportions of community college entrants and four-year-college entrants who eventually secure bachelor's degrees.[4] Their focus on baccalaureate attainment stems from their belief that around three-fourths of community-college students

aspire to a bachelor's degree (Karabel, 1972: 530-536; Pincus, 1974: 21; and Zwerling, 1976: 81).[5]

The functionalist school, meanwhile, rejects using baccalaureate-degree attainment as the main standard of community-college effectiveness. Instead, they argue for measuring the community college's contribution to broadening access to higher education and promoting occupational and income attainment (Cohen and Brawer, 1982: 356-357). Their competing standard is grounded in the belief that most community-college students do not wish a baccalaureate degree. Cohen and Brawer (1982: 46) argue that the class reproduction school's estimate of three-quarters is mistaken, because it is based only on full-time entrants, and that in fact only 15 to 33% of all community-college entrants aspire to a bachelor's degree.

Neither the class-reproduction nor the functionalist schools are wholly correct in their standards. The real number of baccalaureate-degree aspirants lies between their two estimates. I estimate that 30 to 40% of all community-college entrants aspire to a baccalaureate degree. Another 30 to 40% are looking for job skills but not a baccalaureate degree. And the remaining 20 to 30% are seeking adult or community education courses (for purposes of recreation, personal development, or remedial education).[6]

As these figures indicate, studies of community-college effects cannot adhere to the standards of either the class reproduction or functionalist schools alone, because neither school sufficiently acknowledges all three of the main groups into which community-college students are divided: baccalaureate aspirants, vocational aspirants, and community education aspirants.

These considerations lead me to propose the following standards for evaluating the community college's impact on its students.

1. Educational attainment: How do community college entrants -- particularly those who aspire to a baccalaureate degree -- compare to four-year-college entrants in median years of education attained and proportion receiving baccalaureate degrees? Since about a third of community-college entrants aspire to a baccalaureate degree, it is important to determine the degree to which the community college facilitates this goal.

2. Economic attainment: How do community-college entrants compare with other postsecondary-education entrants in the prestige, income, and employment stability of the jobs they eventually enter? This question should be addressed both to baccalaureate aspirants and nonbaccalaureate aspirants.

3. Access to higher education: How effective is the community college in comparison to other higher educational institutions in opening access to higher education?

In weighing the evidence on these three questions, we must acknowledge the functionalist argument that a significant part of the difference between community colleges and four-year colleges in their eventual educational "output" stems from a difference in their initial student "input." Hence, we will compare community colleges and four-year colleges in their students' success both with and without controls for the differences between the two kinds of colleges in the pre-matriculation characteristics of their students: for example,

parental background, high school academic record, and educational and occupational aspirations.

As you may notice, the standards above do not include one specifically addressed to community education aspirants. The reasons are several. Baccalaureate attainment and vocational education have long been the dominant purposes of the community college. No doubt because of this, community-college advocates and officials have never clearly articulated what standards should be used to judge the success of these students. Finally, these students are not represented in the available surveys of student outcomes, most of which only follow students who enter college a year or two after grdauating from high school.

THE EVIDENCE ON COMMUNITY-COLLEGE EFFECTS

Educational Attainment

Several careful studies have found in common that community-college entrants secure significantly fewer baccalaureate degrees and years of education than four-year-college entrants with comparable social and educational characteristics. This convergence of finding occurs despite differences between these studies in samples, followup periods, and analytic methods. Table 1 below summarizes the results and salient features of these various studies.

Three of the most impressive studies are by Velez (1985), Anderson (1984), and Breneman and Nelson (1981). All three examine students who were surveyed as part of the National Longitudinal Survey of the High School Class of 1972 (hereafter referred to as the NLS-72).[7]

Velez (1985) focuses on students who entered the academic programs

of community colleges and four-year colleges in fall 1972 and were followed up in fall 1979.[8] He finds that seven years after college entrance, 79% of the four-year-college academic-program entrants, but only 31% of the two-year-college academic-program entrants, had received a bachelor's degree: a difference of 48% (Velez, 1985: 197).[9] Much of this gross difierential in baccalaureate attainment between community-college and four-year-college entrants is due, of course, to their differences in family background, academic ability, high school record, and education aspiration. But the net difference -- that remaining after controlling for these pre-matriculation differences in student composition -- is still large: 18.7% (Velez, 1985: 199).

Anderson (1984) similarly finds a significant net difference in baccalaureate attainment among entrants to community-college and four-year-college academic programs. Even after controlling for the same kinds of differences as Velez (1985), she still finds that, among academic-program entrants followed up seven years later, state four-year-college entrants lead community-college entrants by 13.4% in bachelor's degree attainment (Anderson, 1984: 33-34).[10]

Breneman and Nelson (1981) differ from Velez (1985) and Anderson (1984) in that they examine entrants to nonacademic as well as academic programs in community colleges and four-year colleges. Still, they too find that four-year-college entrants lead community-college entrants in baccalaureate attainment by 11.3% four years after college entrance, even after controlling for differences in educational aspirations, academic ability, family background, and so forth (Breneman and Nelson, 1981: 82-83).

The finding that community-college entrants are considerably less

likely to receive a bachelor's degree than similar four-year-college entrants is not restricted to studies using the National Longitudinal Survey of the High School Class of 1972. Astin (1982: 98-100) examines baccalaureate attainment by 1980 among 1971 college entrants who were full time students, aspired to at least a bachelor's degree, and were surveyed as part of the annual survey of American freshmen conducted by the Higher Educational Research Institute and the American Council on Education. Astin (1982) finds that, across several different racial and ethnic groups (white, black, Hispanic, and American Indian), community-college entrants are generally less likely to have baccalaureate degrees nine years later than are entrants to four-year colleges, even controlling for entering student characteristics.[11]

Alba and Lavin (1981) also find a significant net difference among 1970 entrants to the community colleges and four-year colleges of the City University of New York who were followed up in 1975. Although restricted to one higher educational system, two features of this study make its findings particularly noteworthy. The CUNY community colleges are much more geared than most to facilitating the pursuit of a baccalaureate degree. Moreover, the study's research design approximated a true experiment of the relative effects of community colleges. The study focused on a homogeneous group of students, all of whom had applied to the CUNY four-year colleges but had high school grade-point averages below 80, the cut-off point for guaranteed admission to a senior college. As a result, while many of the applicants were admitted to the senior colleges, many others were assigned instead to community colleges, although they differed little in their characteristics. In any case, Alba and Lavin (1981)

controlled for sex, race, educational aspirations, high school grades, and high school track. Yet, they still found that 11.2% more of the senior-college entrants than of the community-college entrants received bachelor's degrees.

The net difference between community-college entrants and four-year-college entrants in baccalaureate attainment also extends to years of education attained. Breneman and Nelson (1981: 82-83) find that two-year-college entrants on the average get 0.3 fewer years of education than do four-year-college entrants, even when differences in their pre-enrollment characteristics are controlled.

While baccalaureate aspirants clearly fare better if they enter a four-year college, this is not necessarily true of college entrants with lower aspirations, according to two studies of the NLS-72. One study finds that fall 1972 college entrants who aspired to less than a baccalaureate degree were less likely to have dropped out of higher education by fall 1974 if they had entered a two-year college rather than a four-year college (U.S. National Center for Education Statistics, 1977b: 71, 74). Breneman and Nelson (1981: 90) reinforce this finding in their study of the 1976 NLS-72 followup data. They estimate that 44% of community-college entrants (and 20% of entering four-year-college entrants) attain more years of education if they enter a community college than a four-year college. Breneman and Nelson (1981) describe these students as more often nonacademically oriented, nonwhite, and of low socioeconomic status than those students who benefit more from entering a four-year college.[12]

Somers, Sharpe, and Myint (1971) arrive at a related finding when they compare the impact on vocational students of entering a junior

college as versus a postsecondary vocational-technical school. In 1969, they followed up a nationwide sample of 1966 graduates of vocational programs in the two kinds of schools. They found that the junior college vocational graduates went on to get more education after graduation than did the postsecondary vocational school graduates, even with controls for differences between them in occupation prepared for, relatedness of training to job secured, SES, father's education, race, sex, age, marital status, education prior to entering the school, size of hometown, and region of country (Somers et al., 1971: 168-175). The one major control that is missing, however, is for students' educational aspirations.

In sum, baccalaureate aspirants entering community colleges on the whole attain fewer bachelor's degrees and years of education than do students who enter four-year colleges. However, vocational aspirants seem to do better if they enter a community college rather than a four-year college or postsecondary vocational school.

Table 1
EDUCATIONAL ATTAINMENT BY ENTRANTS TO TWO-YEAR AND FOUR-YEAR COLLEGES

	Velez (1985)	Anderson (1984)	Breneman Nelson (1981)	Alba-Lavin (1981)	Astin (1982)
STUDY CHARACTERISTICS					
Data set used***	NLS-72	NLS-72	NLS-72	CUNY	ACE
Year entered college	1972	1972	1972	1970	1971
Year followed up	1979	1976	1976	1975	1980
Sample restricted to academic program	Yes	Yes	No	No	No
FINDINGS					
B.A. Attainment					
Rate by College Entered					
four-year					
public and private	79.0%		44.2%		NA**
public only				31.2%	
state college only		NA			
two-year					
public and private	31.0%				
public only		NA	10.8%	12.8%	NA
Difference in Rate					
no controls	48.0%	NA	33.4%	18.4%	NA
with controls	18.7%*	13.4%*	11.3%*	11.2%*	NA*
Years of Educ. Attained					
Median by College Entered					
four-year					
public and private			15.1		
state college only		NA			
two-year					
public only		NA	14.0		
Difference					
no controls		NA	1.1		
with controls		0.25*	0.3*		

Notes:
* Value significant at p less than .05.
** NA indicates that statistic not reported.
*** NLS-72 is the National Longitudinal Survey of the High School Class of 1972. CUNY is a study of City University of New York entrants. And ACE is the annual freshman survey by the Higher Educational Research Institute under the aegis of the American Council on Education.

	Velez (1985)	Anderson (1984)	Breneman Nelson (1981)	Alba-Lavin (1981)	Astin (1982)
CONTROL VARIABLES					
Social background					
-Sex	X	X	X	X	X
-Race	X	X	X	X	X
-SES	X	X	X		X
-Age					X
-Lang. spoken at home			X		
-Religion	X	X			
-Marital status entering college			X		
Aspirations					
-Student's educ. asps.	X	X	X	X	X
-Student's occ. asps.		X	X		X
-Parents' educ. asps.	X	X	X		
-Peers' post-HS plans			X		
-College decision date			X		
-Student's perception of college ability		X	X		
High School Experiences					
-Test scores	X	X			X
-Grades or class rank	X	X	X	X	X
-Curriculum or track	X	X	X	X	X
-Homework hours spent			X		
-Changed high schools			X		
-High school location			X		
-Hours worked at job			X		
-High school race compos.					X
College Experiences					
-Living arrangements	X		X		
-Hours worked at job			X		
-Work on campus	X				
-Enrollment status (FT)			X		
-College prog. is acad.	X*	X*	X		
-Time in acad. prog.			X		
-College grades	X		X		
-Children at followup			X		

* Controlled insofar as only sample academic-program entrants.

Economic Attainment

Three procedures are typically used to determine the relative economic benefit of attending a community college. One is to compare community-college entrants to four-year-college entrants. Another is to compare community-college vocational students against students entering postsecondary vocational-technical schools, whether public or private. And the third is to compare graduates and dropouts of community college vocational-education programs.

Monk-Turner (1983), Anderson (1984), and Breneman and Nelson (1981) follow the first procedure, comparing community-college and four-year-college entrants. Monk-Turner (1983) analyzes the National Longitudinal Survey of Labor Market Experience (often called the Parnes survey). Meanwhile, Anderson (1984) and Breneman and Nelson (1981) analyze the National Longitudinal Survey of the High School Class of 1972 (NLS-72).

Monk-Turner (1983) compares the occupational attainment of community-college and four-year-college entrants who were followed up ten years after graduating from high school. In all cases, the respondents were working full time. She found a net difference of 3.5 points on the Duncan index of occupational status between community-college and four-year-college entrants, even after controlling for years of education attained, educational aspirations, intelligence test scores, and a variety of family background variables (Monk-Turner, 1983: 395, 401). It should be noted that Monk-Turner (1983) undoubtedly underestimates the real impact of college type on occupational attainment, because she controls for educational attainment at the same time as for type of college entered. Breneman

and Nelson (1981: 84-85) find that much of the effect of college type on economic attainment is mediated by years of education attained. When years of education attained are controlled, the direct impact of community-college entrance on occupational status falls to insignificance and that on income drops sharply.

Anderson (1984) and Breneman and Nelson (1981) replicate Monk-Turner's (1983) analysis of occupational attainment, using a different data set, and extend it to income attainment. Anderson (1984) analyzes the NLS-72 1979 followup of fall 1972 entrants to two-year and four-year academic programs. She finds that -- even after controlling for family background, educational aspirations, academic ability, and high school program -- community-college entrants secure less prestigious but slightly more remunerative jobs than four-year-college entrants. Their jobs are 2.4 points lower on the Duncan index but pay 5 cents more an hour (Anderson, 1984: 36). However, these figures might underestimate the real success of four-year-college entrants, however. Anderson (1984) included in her sample respondents still in school, as long as they had some job. Since four-year-college entrants would be more likely to still be in school and working part-time in 1979, this would tend to deflate their occupational prestige and income.

Breneman and Nelson (1981) buttress Anderson's (1984) findings. They find that, among NLS-72 men employed full time in October 1976, four-year-college entrants secure significantly more prestigious jobs than do community-college entrants, even after controlling for a wide variety of characteristics. At the same time, Breneman and Nelson (1981) find no significant difference in income when controls are

imposed for pre- and post-enrollment differences between the two kinds of entrants. However, they argue that this parity is likely to break down in the long run due to the significant advantage four-year-college entrants have in occupational attainment, which is strongly correlated with income.

The findings above clearly hold for baccalaureate aspirants. Anderson's (1984) sample is restricted to academic-program entrants, most of whom are baccalaureate aspirants, and her findings are replicated by Breneman and Nelson (1981) and Monk-Turner (1983). However, none of these studies examine nonbaccalaureate aspirants in particular. Moreover, all three studies ignore the many older students who enter college a good many years after high school, mostly in pursuit either of vocational education or community (adult) education.

The second type of studies -- ones that compare community-college vocational students with similar students in postsecondary vocational-technical students -- partially address the limitations of the Monk-Turner (1983) and Breneman and Nelson (1981) studies. The studies by Wilms (1980) and Somers, Sharpe, and Myint (1971) examine vocationally oriented students, with no restriction to recent high school graduates. However, they concentrate on community colleges and postsecondary vocational-technical schools, ignoring four-year colleges.

Wilms (1980) compares community colleges to proprietary vocational-technical schools. In February 1976, he followed up several thousand students who in fall 1973 had entered 21 community colleges and 29 proprietary vocational schools in four cities (Boston, Chicago, Los Angeles, and Miami). The students had enrolled in six particular

vocational education programs in each of the schools: accounting, computer programming, electronics, secretarial, dental assistance, and cosmetology. Wilms (1980: 117-118) finds that the proprietary-school attenders had significantly higher beginning weekly salaries than did community-college attenders, even when controlling for their social and economic differences (age, sex, SES, prior educational attainment, ego development, current inflation, hours worked per week, and job tenure). However, Wilms's (1980) finding must be used with some caution, since he does not control for variations between the two types of schools in the proportions of students in the different training programs. On the other hand, it is likely that Wilms's (1980) controls for sex, SES, and age erase much of the problem, since these are fairly highly correlated with program choice.

Somers, Sharpe, and Myint (1971), however, arrive at a finding contrary to Wilms's (1980). In 1969, they surveyed a nationwide sample of 1966 graduates of vocational education programs in junior colleges and postsecondary vocational-technical schools. They found that the graduates of junior college vocational education programs secured more prestigious and remunerative jobs and suffered less unemployment than the postsecondary vocational-technical-school graduates. The difference in wages held up even when controls were introduced for differences between the schools in such student characteristics as occupation prepared for, relatedness of training to job secured, SES, father's education, race, sex, age, marital status, education prior to entering the school, size of hometown, and region of country.

The Wilms (1980) and Somers et al. (1971) do not provide us with a firm enough base to reach a conclusion on the relative effects of

community colleges versus postsecondary vocational-technical schools on vocational students. The contradiction between the two studies is too large to be papered over. Moreover, neither study has a clear edge in methodological rigor. While Wilms (1980) does not control for occupation prepard for, he does follow up nongraduates as well as graduates of vocational programs, which Somers et al. (1971) do not.

Pincus (1980) follows the last procedure, comparing graduates and dropouts of community college vocational-education programs. After reviewing reports by community-college agencies in several different states, he concludes that the vocational graduates are more often employed than nongraduates, but they fare no better and perhaps worse in income (Pincus, 1980: 350, 352-353). The ultimate meaning of this finding is in question, however. As Pincus (1980) notes, it would have been preferable to compare how well graduates and nongraduates fared economically after controlling for their differences in background and academic performance, but the data to allow this were unavailable.

In sum, community-college entrants fare less well economically than do comparable four-year-college entrants among baccalaureate-oriented students. However, we do not know if this finding holds for nonbaccalaureate-oriented students, particularly older ones. Also, because the evidence is contradictory or of poor quality, we also do not know if community colleges are superior to postsecondary vocational-technical schools or no postsecondary education at all in their economic benefits for nonbaccalaureate-oriented students.

Table 2
ECONOMIC ATTAINMENT BY ENTRANTS TO TWO-YEAR AND FOUR-YEAR COLLEGES

	Monk-Turner (1983)	Anderson (1984)	Breneman, Nelson (1981)
STUDY CHARACTERISTICS			
Data set used****	Parnes	NLS-72	NLS-72
Year entered college	1966,1968	1972	1972
Year followed up	1976,1977	1979	1976
FINDINGS			
Occupational Status	Duncan (1-96)	Duncan (1-96)	Duncan (1-999)
Rate by College Entered			
four-year college			
public and private	61.1		486
state college only		NA**	
two-year (public only)	49.3	NA	424
Difference in rate			
no controls	11.8	NA	62
with controls	3.5*	2.4*	NA*
Income		hourly wages	weekly wages
Median by College Entered			
four-year college			
public and private			$142
state college only		NA	
two-year (public only)		NA	$159
Difference			
no controls		NA	-$17
with controls		-$0.05***	NA***
Unemployment			% of last yr. unemployed
Rate by College Entered			
four-year (all)			8.8%
two-year (public only)			7.7%
Difference			
no controls			1.1%
with controls			0.5%

Notes:
* Value significant at p less than .05.
** NA indicates that the relevant statistic was not reported.
*** Value not statistically significant at p less than .05.
**** NLS-72 is National Longitudinal Survey of High School Class of 1972; Parnes is the National Longitudinal Survey of Labor Market Experience.

	Monk-Turner (1983)	Anderson (1984)	Breneman, Nelson (1981)
CONTROL VARIABLES			
Social background			
-Sex	X	X	X
-Race	X	X	X
-SES	X	X	X*
-Lang. spoken at home			X
-Religion		X	
-Region where live	X		
-Size of hometown	X		X***
-Marital status	X		X
-Any children			X***
-Living arrangements			X*
Aspirations			
-Student's educ. asps.	X	X	X
-Students' occ. asps.		X	X
-Parents' educ. asps.		X	X
-Student's perception of college ability		X	X
High School Record			
-Test scores	X	X	
-Grades or class rank		X	X
-Curriculum or track		X	X*
-Changed high schools			X**
-High school location			X
-Hours worked at job			X
Early College Experiences			
-Enrollment status (FT)			X*
-College prog. is acad.		X	X*
Educational Attainment	X		X*
Occupat'l Characteristics			
-Yrs. since enrolled FT			X***
-Yrs. at current job	X		X*
-Occupational status			X***
-Hrs. worked per week	X		X***
-No. employees in firm			X*
-No. employees in office			X*
-No. one supervises			X*
-Attitudes toward work			X**

Note: Asterisks indicate regressions in which the variables were not used:
* weeks employed
** occupational status and wages
*** occupational status and weeks employed
**** wages and weeks employed

Access to Higher Education

The evidence on the effect of community college in expanding access to higher education is mixed. Medsker and Trent (1964) find that among 16 cities in the Midwest and California, those with community colleges had higher rates of higher education enrollment than those with other kinds of public institutions (state colleges and extension centers of state universities). These differences held not only in the aggregate but also across two of three socioeconomic status (SES) levels, all five ability categories, and six of nine SES-ability categories.

However, Tinto (1973, 1974) does not confirm Medsker and Trent's (1964) finding. Tinto (1973) examines the college-going rates of Illinois and North Carolina 1966 high school graduates in the SCOPE survey, some of whom lived in communities with community colleges and some in communities with other kinds of institutions. Tinto's (1973) estimates separate equations, for 36 different categories of students, regressing college enrollments on student socioeconomic status (father's occupation and father's and mother's education), student test scores, and type of college in the community (two-year or four-year, public or private). The different types of students are defined by the intersection of academic ability (4 categories) or father's education (five) and sex (2) and state (2): for example, Illinois males of low academic aptitude or high parental education. In 20 of 36 of these groups, the students living in communities with state universities had higher college attendance rates than did students living in communities with community colleges, while the reverse held true in the remainder,

even after controlling for student SES and academic ability (Tinto, 1973: 280-290).[13]

Tinto (1974) adds an important codicil to the finding above. In a study focused on 1966 Illinois high school graduates in the SCOPE study (excluding Chicago), he finds that much of community colleges' enrollment derives from pulling students, particularly those of low socioeconomic status, away from four-year colleges. He arrives at this finding by comparing the types of colleges attended by students who live in communities with only a community college with the colleges attended by students living in communities without any higher education institution. Tinto (1974) calculates rates of substitution for 24 different categories of students defined by the intersection of father's occupation (3 categories), academic ability (4), and sex (2). He finds that in 23 of the 24 categories the proportion attending four-year colleges was higher in the communities without community community colleges.[14] Tinto (1974) states his alarm over this "substitution effect," noting that community colleges have a poorer record in facilitating the attainment of baccalaureate degrees.

Summary

The evidence on the effectiveness of community colleges provides support for both the supporters and critics of the community college. But on balance, the evidence lies more on the side of the critics.

In the case of the class-reproduction-school critics, the evidence indicates that community colleges are inferior to four-year colleges in facilitating the educational and economic attainment of baccalaureate-oriented students.

But the functionalist supporters of the community college are

partially validated in that community colleges do seem to be the more effective than both four-year colleges and postsecondary vocational-technical schools in facilitating the educational attainment of nonbaccalaureate-oriented students.

On two issues, we have to declare a mistrial and call for new evidence. The evidence is contradictory and quite sparse on the relative effectiveness of community colleges in facilitating access to higher education and in promoting the economic success of nonbaccalaureate-oriented students and older students.

CAUSES OF COMMUNITY COLLEGE EFFECTS

The finding that community-college entrants, especially those who are baccalaureate-oriented, do significantly less well than comparable four-year-college entrants raises the question of what particular mechanisms produce this result. As noted before, this question has been left particularly unresolved by the critics and, especially, supporters of the community college. In this section, I will explore the ways in which entering a community college interferes with students' educational attainment. I focus on educational attainment because it is an important outcome in its own right and because it constitutes the principal medium through which community colleges affect their entrants' economic success.[15]

The process by which community-college entrants end up with less education than four-year-college entrants is quite complicated. But it can be simplified if we conceive of community-college entrants' educational shortfall as occurring in three stages:

1. in the first two years of college, community-college entrants drop out of higher education at a higher rate than do comparable four-year-college entrants;

2. among students who survive the first two years, community-college entrants continue on to the upper division of four-year colleges at a lower rate than do comparable four-year-college entrants;

3. once in the four-year colleges, community-college transfers drop out at a higher rate than do comparable four-year-college entrants.

Let's examine in turn each of these stages and the forces at work within them.

Attrition in the Freshman and Sophomore Years

The National Longitudinal Survey of the High School Class of 1972 (NLS-72) finds that, among spring 1972 high school graduates who entered college that fall, 39.3% of the two-year-college entrants dropped out of higher education by fall 1974. Meanwhile, the comparable dropout rate for students who entered four-year colleges was 23.5%. By fall 1974, then, 15.8% more two-year-college entrants than four-year-college entrants had dropped out of higher education (U.S. National Center for Education Statistics, 1977b: 135-136).

Not surprisingly, community-college attrition rates are higher for the socioeconomically academically disadvantaged. Students who are nonwhite, of low socioeconomic status, or have poor high school records all have higher community-college attrition rates than do students with the obverse characteristics (Astin, 1972; and U.S. National Center for Education Statistics, 1977b: 22, 135-136, 150).[16]

Clearly, much of gap in dropout rates between community-college entrants and four-year-college entrants is due to their differences in social background, high school performance, and expectations for adult life. The question then is, how big a gap in dropout rates would be left once we control for these differences?

Unfortunately, we do not have good data on this. The National Center for Education Statistics (1977b) study cited above does not estimate the net difference in dropout rates -- controlling for differences in pre-enrollment characteristics -- between two-year-college and four-year-college entrants. However, a study conducted by Alexander Astin (1972) partially meets this need. Astin followed up in 1970 a national sample of 1966 college entrants. He found that 34% of the two-year-college entrants, but only 22% of the four-year-college entrants, did not return to their institutions for the second year.[17] Astin (1972) then estimated equations to predict the dropout rates for two-year-college and four-year-college entrants separately. He found that, when applied to four-year-college entrants, the two-year-college equation overestimated dropout at 151 of 194 four-year colleges. Conversely, the four-year-college equation underestimated dropout at 14 of 23 two-year colleges (Astin, 1972: 10, 47-48).[18] What this indicates is that community college entrants drop out at a higher rate than do four-year college entrants, even when one takes into account their differences in family background, educational aspirations, high school record, and so forth.

But if community colleges themselves contribute to their entrants' higher dropout rate, what is the nature of this contribution? Research on this question is still rather primitive, because almost all research on dropouts has focused on four-year college dropouts.[19] But two factors stand out: the community colleges' lack of residential facilities and their lower academic selectivity and prestige.

A number of scholars have pointed to the community colleges' lack of residential facilities as an important <u>institutional</u> cause of higher

dropout rates (Astin, 1977b: 165-168; and Karabel, 1972: 533n). Community college virtually never maintain dormitories, whereas most four-year colleges do.[20] Yet, several studies have found that on-campus residence powerfully contributes to student persistence (Anderson, 1981: 12; Astin, 1977a: 109, 217; idem, 1977b: 91-92; and Velez, 1985: 196-197). Astin (1977a: 109) notes that among college students generally residence on campus is the most important post-matriculation influence on persistence: it adds 12% to the variance explained in college persistence, after controlling both for students' entering characteristics and several post-matriculation influences. And Velez (1985: 196-197) finds that on-campus residents are 43% more likely to secure a bachelor's degree than are commuter students, even after controlling for socioeconomic background, high school record, educational aspirations, and so forth.

On-campus residence combats attrition by promoting student contact with faculty and other students, participation in extracurriculars, and satisfaction with campus life, all of which have been found to increase persistence. At the same time, on-campus residence weakens the influence of the home and neighborhood, which create obligations and allegiances that divert time and energy from school work (Astin, 1977a; and Tinto, 1975: 107, 109-110).

Community colleges also adversely affect their entrants' persistence rates by being less selective academically and less prestigious. Several studies have found that academic selectivity has a significant positive impact on persistence, independent of other college characteristics and student characteristics (Anderson, 1984: 33, 36; Astin, 1982: 101-102; and Tinto, 1975: 114-115). The community

college's low academic selectivity impinges on its students' academic achievement, and thus dropout rates, in two ways. Because community colleges are less selective, community-college entrants often find themselves surrounded by peers who are not interested in or good at academic work and discourage those who are. This anti-academic student culture is rooted in the fundamental ambivalence of working class and minority students toward education. These students want to do well. But they are also afraid of failing. Furthermore, they see academic success as requiring them to take on the culture of an alien group and to repudiate (and be repudiated by) their family and peers. Hence, working class and minority students develop powerful norms against taking academic work seriously (London, 1978: chaps. 3-4; Neumann and Riesman, 1980: 58; and Weis, 1985: 102, 122, 134-137, 153-154).[21]

At the same time, community-college entrants seem to receive less academic support from their teachers than do four-year-college entrants (London, 1978: chaps. 2, 5; Neumann and Riesman, 1980: 61; and Weis, 1985: 84, 89-90, 93). On the whole, community-college teachers seem to have lower expectations for their students' success. They perceive their students as less academically able and motivated, so they concentrate on reaching a few and largely ignore the rest. This process sets up a vicious circle where students and faculty each find that their prejudices toward the other are powerfully confirmed. Community-college teachers' diminished expectations for most their students reflect the difficulty of teaching students who arrive at college bereft of many of the skills that colleges traditionally expect and that make teaching go smoothly. But those low expectations also reflect the unhappiness of community-college teachers, particularly

those in the liberal arts, about the low status assigned by society and the academy to community colleges and their faculties. Moreover, many community-college teachers often differ greatly in culture from their working class and minority students so that they find it hard to to appreciate their students' world views, motivations, and real strengths.[22]

Problems in Transferring to Four-Year Colleges

Even when community-college entrants do persist in college, they move on to the upper-division of four-year colleges at a lower rate than do four-year-college entrants. For example, 24.4% of fall 1972 two-year-college entrants transferred to a four-year college by fall 1974. Meanwhile, 76.4% of four-year-college entrants were still enrolled in four-year colleges in fall 1974 (U.S. National Center for Education Statistics, 1977a: 6-9, 72-74; idem, 1977b: 22-26, 191-192).[23]

As with attrition rates, transfer rates for community college entrants vary systematically by the major demographic variables. Community college entrants who are male, white, high in socioeconomic status, and academically successful in high school have higher transfer rates than those who have the obverse characteristics (Holmstrom and Bisconti, 1974: 71-76, 79-86; U.S. National Center for Education Statistics, 1977a: 28, 32, 70, 73; and Van Alstyne, Henderson, Fletcher, and Sien, 1973: 1-5).

Clearly, much of the reason that community-college students continue on to four-year colleges at a much lower rate than four-year-college entrants is because they differ greatly in family background, educational aspirations, and academic ability.

Unfortunately, no studies exist that present net differences in continuation rates, controlling for these differences. However, it is possible in a rough and ready way to control for some of these factors. For example, NLS-1972 data indicate that 49.3% of two-year-college entrants who aspire to a baccalaureate degree and survive the first two years of college transfer to a four-year college by their third year. Meanwhile, 96.2% of similar four-year-college entrants are still in four-year schools in their third year (U.S. National Center for Education Statistics, 1977a: 8, 11, 13; and idem, 1977b: 135-136, 50-51).[24]

Attending a community college hinders students' transfer to four-year schools in two ways. Many students lose their desire to transfer. And students who wish to transfer find it difficult to do so.

Community-college entrants lose their desire to continue on to the upper-division in good part because continuation involves a difficult readjustment. Community-college entrants cannot simply drift along, as do many four-year-college entrants. Community-college entrants have to move to a new school, perhaps in a different community, where they might stay only two or three years. Four-year-college entrants find no such chasm lying between their sophomore and junior years. Hence, they need less encouragement from their college teachers and counselors in order to continue into the junior year.

Yet, despite the importance of institutional support for transfer, would-be community college transfers often fail to get it from their schools. Community colleges are less interested today in their transfer programs than in their vocational programs. And this

vocational orientation has resulted in lower transfer rates. The California state community college board has found that vocationally oriented community colleges have significantly lower transfer rates to the University of California than more transfer-oriented community colleges, even controlling for differences in students' race, grades, proximity to the university (California Community Colleges, 1984: 17-19). Meanwhile, Anderson (1984: 33-34) finds that NLS-72 college entrants were significantly less likely to receive bachelor's degree if they entered vocationally oriented two-year or four-year colleges, controlling for differences in student-body composition, academic selectivity, and so forth.

Community college vocational-education programs weaken their students' desire to transfer because they are directed to pumping their students directly into the labor market. The teachers in these programs are often recruited out of the trades for which they train students and have relatively little interest in and knowledge about how students can be aided in transferring to four-year colleges.

To be sure, many community college students enroll in vocational programs because this is their original desire. But many become vocational students because the community college shunts them in this direction. Community colleges exert a vocationalizing influence through several channels. They spread before students a vast array of attractively packaged vocational programs. Moreover, community colleges work hard to destigmatize vocational education by giving vocational education programs new and attractive facilities and by blurring the distinction between academic and vocational education programs. Furthermore, community colleges proclaim that vocational

education graduates do as well as baccalaureates. Finally, community colleges develop elaborate counseling programs to reconcile the institution's supply of, and students' demand for, vocational education.[25]

But even if community-college entrants retain a desire to transfer, they find it difficult to actualize. In particular, community-college transfer students encounter problems in being admitted by four-year colleges and in securing financial aid. As two-year colleges, community colleges do not control an upper division to which they can pass on whom they wish. Rather, they depend on four-year colleges to accept students. And there is evidence that four-year colleges are less willing to take in community college transfers than they are to pass on their own native students. Willingham and Findikyan (1969: 5-6) found that, among a varied sample of 146 four-year colleges, 27% of students wishing to transfer from two-year colleges were turned down. Many of these transfer applicants are rejected because of academic deficiencies. Still, this cannot be a sufficient explanation. Many four-year colleges are quite unselective with regard to freshmen applicants. And community college transfer applicants are typically among the best students in their schools, having survived earlier elimination (Holmstrom and Bisconti, 1974: 71-76, 79-86; (U.S. National Center for Education Statistics, 1977a: 28; and Van Alstyne et al., 1973: 1-5). But more importantly, there is evidence that four-year colleges have a definite distaste for community-college transfer applicants, particularly those from vocational programs. Willingham and Findikyan (1969: 25) find that, among the 146 four-year colleges they surveyed, only 26% encouraged

transfers in their publications, only 17% prepared special material for transfers, and only 27% visited junior colleges. This distaste seems particularly great for community-college vocational students. The four-year colleges turned down the transfer applications of 62% of community-college vocational students, in comparison to 24% of community-college academic students (Willingham and Findikyan, 1969: 5-6).[26]

Community colleges also have little control over whether transfer applicants will receive financial aid, with the result that many do not. The National Longitudinal Survey of the High School Class of 1972 (NLS-72) found that transfer students from two-year colleges receive fewer scholarships and other grants than do four-year-college natives (19.3% as versus 38.9%), although they receive as many loans (22.1% vs. 23.8%).[27] And a study of the 19% of accepted tranfer applicants to the University of California who did not matriculate found that a major reason was finances (Baratta and Apodaca, 1984: 6).

Attrition after Transfer

Even after transferring to four-year colleges, community-college entrants are still at risk. Table 3 below displays the results of several studies -- some national and some state specific -- on the dropout and B.A. attainment rates of two-year students who transfer to four-year colleges. As can be seen, a considerable number of the transfer students drop out of four-year college. Three to five years after transferring, about a third of all transfers have dropped out. And with more years, even more are felled among those still remaining in college. By comparison, four-year-college natives in California and

New York who are also entering the junior year have a considerably lower drop out rate.

The data in Table 3 raise the question of how much of this difference in dropout rate is due to institutional factors rooted in the the awkward coupling between four-year and two-year colleges and how much is due to the fact that two-year transfers are less able and motivated (even in high school) than four-year-college natives. The NLS-72 does indicate that, in the senior year of high school, those who would eventually transfer from two-year colleges differed significantly from those who entered and persisted in four-year colleges in SES, academic ability, high school record, and educational aspirations (U.S. National Center for Education Statistics, 1977a: 32, 75). Unfortunately, we have no studies comparing the educational attainments of transfers and four-year natives that examine the relative contributions of pre-college and collegiate characteristics and experiences.

Table 3
EDUCATIONAL OUTCOMES FOR TWO-YEAR TRANSFERS AND FOUR-YEAR NATIVES

STUDY CHARACTERISTICS	(1)	(2)	(3)	(4)	(5)	(6)
Coverage*	Calif.	Fla.	U.S.	U.S.	U.S.	U.S.
Data set used			ACE	CSHE	Talent	CSHE
Year entered college	NA	NA	1968	1959	1960	1958
Year transferred	1975	1976	NA	NA	NA	1960
Year followed up	1980	1978	1972	1963	1965	1963
FINDINGS						
Dropped Out						
within two years						
two-year transfers		32.0%	14.3%**	21.0%**		
four-year natives		19.8%				
within three years						
two-year transfers					32.0%**	29.0%
within five years						
two-year transfers	35.6%					
four-year natives	23.9%					
Attained B.A.						
within two years						
two-year transfers			40.8%**	33.0%**		
four-year natives			57.2%**	37.0%**		
within three years						
two-year transfers					40.0%**	62.0%
within five years						
two-year transfers	61.1%					
four-year natives	67.8%					
Still in College						
at end of two years						
two-year transfers			44.9%**	46.0%**		
at end of three years						
two-year transfers					28.0%**	9.0%
at end of five years						
two-year transfers	3.3%					
four-year natives	8.3%					

Sources: (1) California Community Colleges (1984: 29, F-7, F-9, F-11, F-12); (2) Florida State Education Department (1983: 12); (3) Holmstrom and Bisconti (1974: 106-107); (4) Trent and Medsker (1968: 79, 89); (5) Folger, Astin, and Bayer (1970); (6) Knoell and Medsker (1965: 8, 15, 21, 25).

Notes:

* The California data pertain to fall 1975 transfers to the California State University system (which enrolls about 60% of all California community college transfers to four-year colleges, public and private) coming in as juniors and CSU natives becoming juniors the same year (California Community Colleges, 1984: 1-2, 33, A-1). The Florida data are for fall 1976 transfers to three Florida state universities (University of Florida, University of South Florida, and Florida Technological University) coming in as juniors and university natives becoming juniors the same year. The ACE data are based on the annual American Council of Education survey of entering full time freshmen. The CSHE surveys were conducted by the University of California, Berkeley, Center for the Study of Higher Education. Talent is the Project Talent national survey of high school graduates.

** Holmstrom and Bisconti (1974), Trent and Medsker (1968), and Folger et al. (1970) do not give the time elapsed between transfer students' entrance into four-year colleges and when they were followed up. But since the majority of students transfer between sophomore and junior year, this suggests that the followup usually came after two years at the four-year college in the first two studies and after three years in the third study.

In any case, there is suggestive evidence that four institutional factors do contribute significantly to transfer students' academic problems. First, a fair number of transfer students lose credits in transit to four-year colleges. This credit loss harms transfer students' educational attainment by slowing them down and making them vulnerable to competing demands and attractions. A study of transfers from Maryland community colleges found that 6% lost 13 or more credit hours (that is, about a semester or more) (Maryland State Board for Community Colleges, 1983: 12). And several national studies during the 1960s discovered that 10-12% of two-year-college transfer students lost at least a semester's worth of credits (Godfrey and Holmstrom, 1970: 167; Knoell and Medsker, 1965: 61; and Willingham and Findikyan, 1969: 30).

Several factors cause credit loss. Most four-year colleges refuse to give more than two years' credit. They also routinely disallow credit for community college courses that have no counterpart in their own curriculum or that are upper-division courses in their eyes. And four-year colleges often give no credit or only partial credit for community-college courses for which the student received a D, although four-year-college natives usually receive credit for courses with D grades (Kintzer and Wattenbarger, 1985: chap. 2; Knoell and Medsker, 1965: 61; Maryland State Board for Community Colleges, 1983: 12; and Winandy and McGrath, 1970: 189-190).

Transfer students encounter a second obstacle in the form of difficulty of getting financial aid. As noted in the section on continuation into the upper division, transfer students less often receive financial aid than four-year natives. This dearth of financial

aid increases the chances of both voluntary and involuntary (academic) withdrawals on the part of transfer students. Transfer students who voluntarily drop out of college usually give lack of money as their main reason (Knoell and Medsker, 1965: 71). And, presumably, academic withdrawal is made more likely by the need to take a job out of financial need.

Thirdly, transfer students find it difficult to integrate themselves socially into the four-year institutions they have entered, with resulting damage to their grades, commitment to college, and ultimately, persistence (Astin, 1977b: 154, 168; and Knoell and Medsker, 1965: 68). For example, among Los Angeles community-college transfers to UCLA, those who dropped out were significantly more likely to have most of their friends outside UCLA (Kissler, Lara, and Cardinal, 1981: 9-10). Among the reasons that transfers find it harder than natives to integrate themselves socially is that four-year colleges rarely have orientation programs directed specifically to transfer students' needs; instead, transfer students are usually put through the regular freshman orientation. Also, clubs and other extracurricular activities usually recruit new members among freshmen. And, in any case, transfer students have less time for socializing because they are under pressure to get good grades so that they can validate their admission.

Finally, transfer students find it hard to perform well academically at four-year colleges. Studies repeatedly find that they tend to suffer rather sharp drops in their grades during the first year after transfer (Cohen and Brawer, 1982: 349-350; Hills, 1965; Kintzer and Wattenbarger, 1985; and Knoell and Medsker, 1965: 27-28). For

example, fall 1982 community-college transfers to the University of California and California State University systems suffered a median drop in their grade-point averages from community college to first year of university of one-half a point at UC and one-third a point at CSU on a five-point scale (California Community Colleges, 1984: 26, 30, F-2).[28] Bad grades are significantly associated in turn with greater atrition. Among Los Angeles community-college transfers to UCLA, nonpersisters had significantly lower grades at UCLA than did persisters (Kissler, Lara, and Cardinal, 1981: 9-10).

It is often claimed that transfers' upper-division grades soon recover from the shock of the first year after transfer. However, this claim must be regarded with considerable skepticism. It is based on comparing the mean grade-point average of students who transferred two or three years before to students who transferred within the previous year. This cross-sectional approximation of a longitudinal analysis does not correct for the fact that the second- and third-year transfer students no longer include the many first-year transfer students who did badly the first year and dropped out. This selective atrition would alone contribute to the apparent rise in the mean GPA of transfer students as they stay on.

Transfer students' grade drop leads to attrition in several ways. The most direct is simply that students are simply dismissed or put on academic probation. For example, among fall 1973 Illinois community college transfers to instate public and private four-year colleges, 3.1% were dismissed and 10% put on probation by spring 1974 (Illinois Community College Board, 1978: 12, 19). Additionally, poor grades weaken students' self-confidence and lead many to voluntarily withdraw.

Among the 1973 Illinois transfers, 7.7% withdrew voluntarily their first year.

Clearly, a good part of the grade shock that community college students encounter stems from the collision between their abilities and the tougher standards of the four-year colleges. But it also stems from institutional factors: particularly, less access to financial aid and poorer academic preparation in the community college.

As discussed in the previous section, transfer students' are less likely to receive financial aid than are four-year-college natives. And this disability significantly and independently depresses their upper-division grades and persistence rates. A study of fall 1977 transfers from Los Angeles community-colleges to UCLA finds that their grades at UCLA were significantly and negatively associated with their amount of unmet financial need, even with controls for their community college GPAs and quality of community college preparation (Kissler, Lara, and Cardinal, 1981: 6-8).

Morevoer, community college transfers get poorer grades than four-year-college natives because their lower-division preparation, on the average, is inferior (Aulston, 1974: 116-118; Kissler, Lara, and Cardinal, 1981: 6-8; and Knoell and Medsker, 1965: 60, 98). For example, the fall 1977 transfers to UCLA mentioned above received much less writing instruction in the lower division than did the UCLA natives. Two-thirds of the transfers said that at UCLA they frequently had to write papers that integrated ideas from various parts of a course, but only one-third said they had done this frequently while at the community college. Moreover, the transfers' lack of writing experience had a significant and independent effect on their

upper-division grades and persistence, even controlling for their demographic characteristics, community college grades, and community college course-taking and study habits (Lara, 1981: 2, 8-9).

SUMMARY AND CONCLUSIONS

This paper has a two-fold task: to settle the question of what are the effects of community colleges and to explore the question of how the community college produces those effects. The first section of this paper synthesizes the findings of a wide range of studies that compare the impacts of the community college and other kinds of postsecondary institutions on three student outcomes: educational attainment; economic success; and access to higher education. These three outcomes were chosen because they addressed the concerns of both the functionalist and class-reproduction schools. In each case, relative impact was determined by comparing the outcomes for entrants to community colleges and entrants to other institutions who were similar in such imporant characteristics as family background, educational and occupational aspirations, academic ability, and high school record.

This critical synthesis yields the conclusion that the community college's effects conform more closely to the portrait drawn by its critics from the class-reproduction school than to that by its supporters from the functionalist school. Community colleges are clearly less able than four-year colleges to facilitate the educational and economic attainment of the approximately 30 to 40% of community-college entrants seeking bachelor's degrees. Baccalaureate aspirants entering community colleges on the whole secure fewer bachelor's degrees, fewer years of education, less prestigious jobs,

and in the long run, poorer paying jobs than do comparable students entering four-year colleges.[29] On the other hand, and here the data are much weaker, community colleges may be superior to four-year colleges for the 30 to 40% of community-college entrants who do not seek a bachelor's degree. Vocational-education aspirants seem to attain more years of education if they enter a community college rather than a four-year college or postsecondary vocational school. However, the data are sparse and contradictory to be conclusive on two questions: which type of institution best promotes the economic success of nonbaccalaureate aspirants, particularly older ones, and secondly, which type most facilitates access to higher education.

The second section of this paper was devoted to exploring the precise mechanisms by which entrance into a community college hinders students' educational attainment, since the class-reproduction and functionalist schools have been quite sketchy on this topic. These obstacles are conceptualized as occurring in three main stages: attrition within the community college; difficulty in transferring to four-year colleges; and attrition after transfer. At each stage, various causes are at work. Attrition in the community college is significantly and independently associated with community colleges' low selectivity and prestige and lack of dormitories. Community-college entrants find it difficult to transfer because their desire to transfer is weakened by the community college's vocational emphasis and the need to enter a new college and because, even if their desire to transfer remains strong, they are less able to secure acceptance and financial aid from four-year colleges. Finally, attrition after transfer is precipitated by the sharp drop in grades that many students suffer,

lack of financial aid, difficulty in integrating socially into their new schools, and frequent loss of credits.

These various causes are not of equal importance, but it is difficult to rank them, because no study has examined their effect simultaneously. Rather, we have had to rely on piecing together various partial studies, with the result that their findings are inconmensurable. This points to the need for further research, which will be discussed below.

The class-reproduction school's assessment of the effects of community colleges is more correct than that of the functionalist school, but this does not mean that its assessment of the motives behind this effect is also correct. The class-reproduction school has moved too quickly from evidence that the community college has the effect of hindering the mobility of many students to the conclusion that this is the community college's purpose. Such a symmetry of effects and intents is contradicted by a study I have conducted of the politics of community college expansion in California, Illinois, New York, and Washington State (Dougherty, 1986a,b). This study finds that the desire to hinder students' mobility played a very small role in the rise of the community college. Rather, the study finds that the obstacles that community-college entrants encounter are largely unintended. They arise from the intersection of the many, largely benign goals that the community college tries to serve. Community-college advocates have wanted a college that is inexpensive, nearby, locally controlled, and strongly vocational. In many ways, the community college is an elegant solution to these various demands. The community college has been kept inexpensive and thus easy to scatter

around a state by avoiding dormitories and expensive upper-division programs. And the community college has been made strongly vocational by requiring it to put vocational education on the same footing as transfer education. Unfortunately, this design is not the best solution to the needs of many community college students, particularly baccalaureate-oriented ones. Colleges that lack dormitories and upper-division programs and have large vocational-education programs tend to produce high rates of attrition in the lower-division years, low transfer rates, and high attrition after transfer.

The considerable consonance of findings among the studies reviewed above does not mean that there is no great need for further research. In the remainder of this paper, I would like to note several areas particularly deserving more investigation. First, we need studies with longer followup periods than the seven-year to ten-year followups reported so far. Longer followups are particularly important for studying the impact of college type on economic attainment and for exploring the experiences of students who enter college many years after high school.[30]

Second, studies that simultaneously examine all the main causes of the lower attainment of community college students are much needed. At this time, we have no reliable way of comparing the impacts of different causes since different factors are analyzed in different studies.

Third, we should compare community colleges not just with one other type of institution at a time but with several simultaneously. In particular, we need to examine the effects of community colleges

relative to both four-year college and public and private postsecondary vocatioal-technical schools.

Fourth, we need studies that carefully explore how community college effects differ across various kinds of students. In particular, it would be useful to have studies that systematically examine the relative effect of community colleges on students differing in educational aspirations (those aspiring to a bachelor's degree; those aspiring only to an associate's degree or a certificate; and those entering college with no degree ambitions) and in the type of program in which they enroll (for example, liberal arts or vocational).

Fifth, the studies by Medsker and Trent (1964) and Tinto (1973, 1974) of the impact of various kinds of colleges on college access should be replicated, because they contradict each other and because higher education has changed greatly since the mid-1960s. In such a replication, it would be especially illuminating to compare the attractiveness of community colleges to other types of colleges that share varying combinations of the characteristics typical of community colleges: cheapness, accessibility, unselectiveness, and breadth of curriculum. By such a study, we could determine both how attractive the community college is and what particular characteristics -- ones that may not be peculiar to the community college -- contribute to its attractiveness.

Sixth, we need a careful study comparing the transfer rates of community-college entrants and the continuation rates of four-year-college entrants, controlling for differences in family background, educational aspirations, academic ability, and so forth. In such a study, it would be illuminating to determine the number of

community college students, particularly vocational majors, who initially plan to transfer to a four-year school but end up either failing to apply or, applying, but failing to go on.

Seventh, we need to systematically compare the upper-division attrition rates of four-year-college natives, community-college transfers, and transfers from other types of institutions, controlling for their precollege and lower-division characteristics.

The evidence on community college effects that we have reviewed allows us to describe with considerable surety the community college's effects on baccalaureate-oriented students. Even controlling for differences in students' precollege characteristics, the community college is clearly less able than the four-year college to facilitate the educational and economic attainment of baccalaureate-oriented students We can also explain, although with less surety, the factors that cause the community college to be less helpful to baccalaureate-oriented students. But the evidence we have reviewed still leaves us with much to learn about these factors. Moreover, we have even more to learn about the size and nature of the community college's effects on nonbaccalaureate-oriented students.

NOTES

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1. The term "community college" is used here in its typical sense, as referring to public two-year institutions that offer both academic and vocational education and that are not branches of state universities. Community colleges make up the bulk of two-year colleges in both number and enrollment.

2. Another way of viewing social and economic differentials in modes of access to college is in terms of of how many college entrants of a given background enter higher education through a community college. For example, the proportion of October 1981 college students enrolled in public two-year colleges was 32.6 percent for students with family incomes below $20,000 a year, but 24 percent for those with family incomes of $20,000 and higher. Similarly, the proportion was 32% for students with a family head with less than a high school diploma, but 16.1% for those with a family head with at least a bachelor's degree (U.S. Bureau of the Census, 1985: 58-59).

3. For reasons of space, this paper does not address except in passing the purposes -- that is, the motives and actors -- behind the expansion of the community college. I address this question in two other papers (Dougherty 1986a,b).

4. Recently, however, members of the class reproduction school have begun to consider the economic returns to a community college education. See Pincus (1980) and Karabel (1986).

5. The class reproduction school's estimate is based on the annual survey of full-time freshmen conducted each year by the Cooperative Institutional Research Program at UCLA in cooperation with the American Council on Education (Cooperative Institutional Research Program, 1985).

6. My estimates, like Cohen and Brawer's (1982), are derived from studies of the aspirations of community college entrants in California, Maryland, and Virginia (Adams and Roesler, 1977: 15; Beaver and Kruckenburg, 1985: 66-70; McConochie, 1983: 10; and Sheldon, 1982: 1-9, 1-10, 1-29, 1-34). I agree with Cohen and Brawer (1982) that the ACE-CIRP freshman national norms are not accurate, because they ignore part-time entrants, who are numerous and differ considerably in their aspirations from full-time entrants (Sheldon, 1982). My estimate is higher than Cohen and Brawer's (1982) principally because they mistakenly base their estimate in part on a Washington study that examines not just community college entrants but community college students enrolled at all levels (Meier, 1979).

7. The National Longitudinal Survey of the High School Class of 1972 (hereafter NLS-72) questioned over 20,000 spring 1972 high school

seniors nationwide and followed them up in the fall of 1973, 1974, 1976, and 1979. Findings from the NLS-72 and other major longitudinal surveys are based on, and most applicable to, students who enter community college within a year or two of college entrance. Such students make up about 50% of all community college entrants (U.S. Census Bureau, 1985: 54). The restriction of these data to younger students should not cause an underestimate of the impact of community colleges on baccalaureate aspirants, however, since few baccalaureate aspirants are drawn from the ranks of older entrants (Sheldon, 1982).

8. Velez's (1985) and Anderson's (1984) samples included only community college entrants who enrolled in academic programs and excluded those who enrolled in vocational and other programs. In essence, they concentrated on the community college and four-year-college students most likely to pursue a baccalaureate degree.

9. The data cited in the text and in the tables usually pertain to two-year colleges generally rather than just to community colleges. That is, they include as well private junior colleges and two-year branches of state universities. However, community colleges enroll the vast bulk of two-year-college students, so the data should apply with little distortion to community colleges in particular.

10. Unfortunately, Anderson (1984) does not compare community-college entrants against all four-year-college entrants. Rather, she compares entrants to six different kinds of institutions: public and private two-year colleges, four-year colleges, and universities. I use state four-year colleges as the comparison for community colleges, because public four-year nondoctoral-level colleges enroll 22.5% percent of all students in higher education: more than public universities (19.3%) and more than all the private institutions together (22.3%) (U.S. National Center for Education Statistics, 1985: 8).

11. Astin (1982) presents his effects estimates in terms of partial correlations rather than partial regression coefficients or adjusted totals. Hence, it is not possible to directly compare his findings to those of the other studies. The partial correlations range from -.20 to .01 for community-college entrants as versus -.01 to .08 for public four-year-college entrants (Astin, 1982: 98-100).

12. Breneman and Nelson (1981: 90-92) arrive at this figure by estimating separate educational-attainment regressions equations for four-year-college entrants and for public two-year-college entrants. They then apply the coefficients from each regression equation to the values for each student and determine which students would benefit more from the application of the regression weights for the community-college equation than from those for the four-year-college equation.

13. Based on the data Tinto (1973: 280-290) reports, I calculate that high school graduates living in communities with community colleges are 3.1% less likely to attend college than those living in communities with state universities, even after controlling for

students' academic ability and socioeconomic status (father's occupation and father's and mother's education).

14. From the data Tinto (1974) reports, I calculate that the proportion of college students attending community colleges was 28.6% higher in communities with community colleges than in communities without any college. But at the same time, the proportion of college students enrolled in four-year colleges was 25.9% lower in communities with community colleges than in communities without any college. Although these figures must be taken as quite tentative, they indicate that the majority of community-college enrollments come from pulling students away from four-year colleges.

15. As noted before, Breneman and Nelson (1981: 84-85) find that, when years of education attained are controlled, the direct impact of community-college entrance on occupational status falls to insignificance and that on income drops sharply. More generally, status-attainment studies invariably find that educational attainment is one of the central determinants of adult socioeconmic attainment. For example, Jencks et al. (1979: 172, 183-184) find that -- after controlling for family background and test scores -- completing college is associated with an additional 21-25 points in occupational prestige and a 40% higher income.

16. Many studies of college dropout do not and, in fact, cannot determine which dropouts from particular institutions dropped out from higher education entirely or, as often the case, simply moved to other institutions. Therefore, the studies using the NLS-72 are particularly important because they can and do make this distinction.

17. Notice the problem here. As Astin (1972) painstakingly makes clear, this survey relied on the entering institution for followup information. These institutions, and hence Astin himself, had no way of knowing accurately how many of their dropouts left higher education entirely and how many transferred to other institutions.

18. For two-year-college and four-year-college entrants separately, Astin (1972: 10, 47-48) regressed whether students returned for the second year on a host of characteristics, including sex, race, socioeconomic status, high school test scores and grades, and respondents' and their parents' educational aspirations at the beginning of college. Following this, Astin applied to each respondent the regression weights ffom the two equations and estimated dropout rates for each college in his sample. He then compared these estimates against the actual frequencies observed at each college.

19. See the excellent reviews of the dropout literature by Tinto (1975) and Pantages and Creedon (1978).

20. Anderson (1981: 14) finds that, among NLS-72 entrants to two-year-college and four-year-college <u>academic</u> (nonvocational) programs, 59% of the four-year-college entrants lived on campus.

21. For generalizations of this point to education as a whole, see Apple (1982), Giroux (1981), and Willis (1977).

22. Research on the levels and sources of community-college teachers' expectations of their students could quite usefully draw on concepts and methods from the now very rich literature on elementary and secondary school teachers' expectations. For excellent reviews, see Persell (1977) and Oakes (1985).

23. The transfer rates reported above are based on a followup only 2 years after college entry solely of students who entered college directly out of high school. Unfortunately, transfer rates based on the NLS-72 seven-year (1979) followup have not been reported. However, other data on transfer rates are much poorer. Cohen, Brawer, and Bensimon (1985: 3) estimate with no clear evidence that 13-15% of all community-college entrants eventually go on to four-year schools. Several states publish data on the number of transfers in a given year but not on the proportion of an entering cohort who eventually transfer. Two state studies that do report cohort data find very different transfer rates: 9.5% in California with a three-year followup of all entrants and 24.3% in Maryland in a four-year followup of degree credit entrants (Sheldon, 1982: 3-29, 4-26, 4-28; and McConochie, 1983: 18-19).

24. The ultimate transfer rates will, of course, be higher, since 38.3% of two-year-college entrants who were B.A. aspirants were still enrolled in two-year colleges in fall 1974. However, even if all these students transferred -- which is quite unlikely -- the community-college transfer rate would still fall below the continuation rate for four-year-college entrants with baccalaureate aspirations (96.2%) (U.S. National Center for Education Statistics, 1977b: 191-192).

25. For an analysis of the actors and interests behind the expansion of vocational education in the community college, see Dougherty (1986b) and Brint and Karabel (forthcoming). For a prescient early treatment, see Clark (1960).

26. During the 1970s, four-year colleges' distaste for community college transfers, including vocational students, weakened as higher education enrollments hit a plateau and state governments moved to ease transfer from community colleges to state universities (Kintzer and Wattenbarger, 1985: 36-38). However, we have no firm data on how much this distate for transfer students weakened. As noted in the conclusion, this is a topic much needing research.

27. No doubt the gap would be smaller today, when transfer students are more numerous and colleges compete vigorously for students. Yet, there is still no federal program specifically for transfer students and many states have taken little initiative in this area. Again, this is an area needing research.

28. Similarly, fall 1979 Illinois community-college transfers to Illinois public and private universities suffered an average drop of about one-third a grade point between their community-college GPA and their university GPA the first year after transfer (Illinois Community College Board, 1984: 11).

29. See footnote 7 above for a reminder on the characteristics of the of the data underlying this conclusion.

30. A particularly noteworthy study with a longer followup is the one being conducted by David Lavin and James Murtha at the City University of New York. They have fielded a thirteen-year followup of students who entered CUNY in the early 1970s, examining both educational and economic outcomes. A preliminary report of the educational outcomes can be found in Lavin, Murtha, Kaufman, and Hyllegard (1986).

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